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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,788	03/19/2004	Yoshiyuki Suzuri	KOT-0093	7727

7590 08/02/2007  
CANTOR COLBURN LLP  
55 Griffin Road South  
Bloomfield, CT 06002

EXAMINER
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GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

MAIL DATE	DELIVERY MODE
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08/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/804,788

Applicant(s)

SUZURI ET AL.

Examiner

Dawn Garrett

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19, 20 and 22-58 is/are pending in the application.
- 4a) Of the above claim(s) 14-17, 20, 22-26, 28, 30-34 and 48-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 19, 27, 29, 35-47 and 52-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This Office action is responsive to the amendment filed April 16, 2007. Claims 57 and 58 are listed as newly added, but were previously presented in the last amendment. Claims 18 and 21 have been cancelled. Claim 19 was amended. Claims 1-17, 19, 20, 22-58 are pending. Claims 14-17, 20, 22-26, 28, 30-34, and 48-51 are withdrawn as non-elected. [It is noted withdrawn claims 20 and 22-26 depend upon a cancelled claim. It is suggested the dependency of the claims be amended prior to examination of these non-elected claim.]

2. The species under consideration are the following:

Formula 11 as the host compound wherein  $R_{1003}$  is substituted with a heterocyclic group and  $R_{1011}$  is substituted with an aromatic group. The remainder of the R groups represent hydrogen atoms.

The Formula 4-2 compound wherein the at least one substituent group is an alkyl group.

3. The rejection of claim 19 under 35 USC 112, second paragraph, is withdrawn due to the amendment.

4. The rejection of claims 1-13, 19, 27, 29, 35-47, 52-55, 57 and 58 under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 200/0053462 A1) in view of Thoms et al. (US 2003/0205696 A1) and Oshiyama et al. (EP 1267428 A2) is withdrawn due to applicant's arguments regarding Oshiyama et al.

5. The rejection of claim 56 under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 200/0053462 A1) in view of Thoms et al. (US 2003/0205696 A1) and Oshiyama et al. (EP 1267428 A2) in further view of Ogo et al. (US 6,608,748) is withdrawn.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 19 depends upon claim 1. Claim 19 appears to define a triarylamine compound that is broader than Formulas 4-1 or 4-2 set forth in claim 1 and accordingly, claim 19 is unclear with regard to whether it encompasses compounds other than 4-1 and 4-2 of the parent claim. Clarification and/or correction are required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

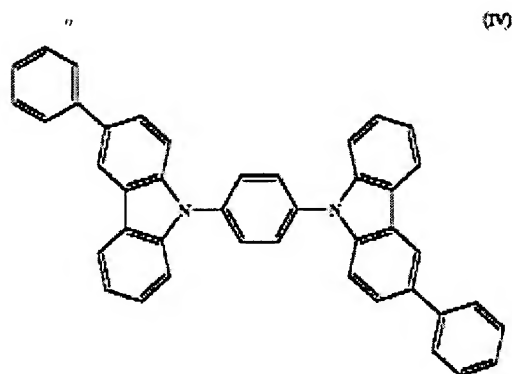
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 8-13, 19, 27, 29, 35-40, 42-47, 52-55, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 200/0053462 A1) in view of Thoms et al. (US 2003/0205696 A1) and Suzuri et al. (EP 1371709 A1). [Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.] Mishima teaches an electroluminescent device comprising a light emitting layer with a carbazole host material and a phosphorescent emitter guest material (see abstract and paragraph 36, sixth line, and par. 15-17).

Art Unit: 1774

The devices disclosed by Mishima further comprise a hole injecting/transporting layer comprising aromatic tertiary amine derivatives (see par. 35, first line through twelfth line).

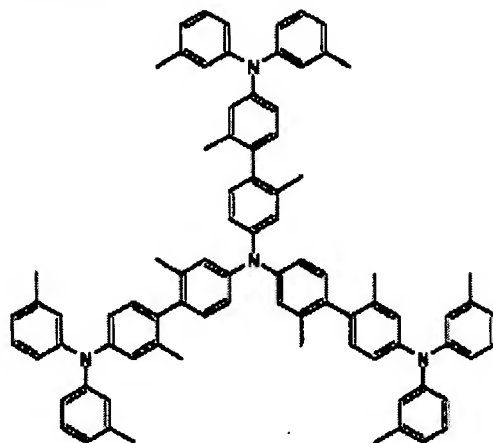
Mishima fails to teach specifically the carbazole host species under consideration. Thoms et al. teaches in analogous art carbazole host materials for a light emitting layer of an organic electroluminescent device according to the species under consideration (see par. 19, page 2):



Mishima further fails to teach specifically the aromatic tertiary amine derivative currently under consideration. Suzuri et al. teaches, in analogous art, electroluminescent elements comprising aromatic tertiary amine compounds such as the following according to the species under consideration (see pg. 14):

Art Unit: 1774

Compound 4-2



It would have been obvious to one of ordinary skill in the art to have selected the carbazole derivative according to Thoms et al. for the host compound and the aromatic tertiary amine compound taught by Suzuri et al. for the tertiary aromatic amine compound, because Mishima generally teaches that such compounds are suitable for the Mishima device as host and hole injecting/transporting compounds respectively.

With regard to claims 6 and 40, Mishima teaches both a hole injecting and hole transporting layer (two layers) may be included in the device (see par. 21 and par. 35) per the requirement of a second hole transporting layer. Mishima teaches porphyrin-based compounds, aromatic tertiary amines, and styrylamines (see par. 35), which are all listed as preferred materials for the second “hole transporting layer” by applicant in the specification.

Since the references teach the same compounds as required by applicant in the claims, the property limitations of claims 1-5, 9-11, 36-39, and 43-45 are considered to be met by the references.

Claims 52 and 53 are product-by-process limitations. See M.P.E.P. § 2113:

Art Unit: 1774

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)... “The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

With regard to claim 55, Mishima discloses the light emitting device may be part of an illumination light source (see paragraph 1).

10. Claims 7 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 200/0053462 A1) in view of Thoms et al. (US 2003/0205696 A1) and Suzuri et al. (EP 1371709 A1) and Oshiyama et al. (EP 1267428 A2). With regard to claims 7 and 41, Mishima fails to teach specifically the thickness of the hole transporting/injecting layer adjacent the light emitting layer. Oshiyama et al. teaches, in analogous art, hole transportation layers for an electroluminescent device ordinarily have a thickness of 5nm and above (see page 45, par. 63). It would have been obvious to one of ordinary skill in the art to have formed a hole transporting/injecting layer adjacent the light emitting at a thickness of 5-20nm, because Oshiyama et al. teaches such a thickness for a hole transporting layer is suitable and functional

Art Unit: 1774

for an electroluminescent device. One would expect such a thickness for the hole transportation layer to be similarly useful in the Mishima device.

11. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 200/0053462 A1) in view of Thoms et al. (US 2003/0205696 A1) and Suzuri et al. (EP 1371709 A1) in further view of Ogo et al. (US 6,608,748). The rejection of claims 1 and 55 are relied upon as set forth above. While Mishima discloses the light emitting device may be part of an illumination light source (see paragraph 1), Mishima fails to mention specifically the illuminator may be used with a liquid crystal element. Ogo et al. teaches in analogous art the use of an electroluminescent illuminator with a liquid crystal element to form a display (see Figures and col. 5, lines 40-49). It would have been obvious to one of ordinary skill in the art to have combined a liquid crystal element with the device taught by Mishima in view of Thoms and Oshiyama et al., because Ogo et al. teaches an electroluminescent illuminator may be used with a liquid crystal element to form a quality display device.

#### ***Response to Arguments***

12. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

It is noted applicant stated in the first paragraph of the remarks filed April 16, 2007 that claim 19 is cancelled. Claim 19 was amended not cancelled in the claim amendment received April 16, 2007. Claim 19 is still under consideration.

#### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2004/0005404 is equivalent to Suzuri et al. (EP 1371709 A1).




Art Unit: 1774

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached at (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Dawn Garrett  
Primary Examiner  
Art Unit 1774